



THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Allen A. Aradi Application No.: 10/696,618 Filed: 10/29/2003 Title: METHOD FOR REDUCING COMBUSTION CHAMBER DEPOSIT FLAKING Attorney Docket No.: EI 7607	Group Art Unit: 1714 Examiner: Cephia D. Toomer
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Commissioner of Patent
P.O. Box 1450
Alexandria, Virginia 22313-1450

Declaration Of Allen A. Aradi

I, Allen A. Aradi, declare as follows:

1. I am an Advisor, in the Fuels Research and Development division at Afton Chemical Corporation, the assignee of the present patent application. I have been employed by Afton Chemical or its predecessor in interest for 16 years. I have and have had personal involvement with research and development in the field of fuel additives including knowledge of related fuel combustion systems.

2. Combustion chamber deposit flaking in spark ignition engines is not the same subject as the existence of combustion chamber deposits. There will be no deposit flaking if there are no combustion chamber deposits in an engine. However, the amount of flaking that occurs in an engine may vary

regardless of the amount or mass of combustion chamber deposits in an engine. For example, an engine may have a relatively low mass of combustion chamber deposits but still have a relatively high amount of combustion chamber deposit flaking. Likewise, an engine may have a relatively high mass or amount of combustion chamber deposits and a relatively low amount of or no detectible combustion chamber deposit flaking.

3. Combustion chamber deposit flaking is not related to the issue of reducing combustion chamber deposits. In a normal spark ignition engine, combustion chamber deposits may increase or decrease in the ordinary operation of the engine. Typically, the reduction in combustion chamber deposits is a result of the combustion of some of the deposit mass during the combustion of the fuel within an engine cylinder. To the extent that there exists historical knowledge with respect to reducing or controlling the amount of combustion chamber deposits, that science or understanding is unrelated to the phenomenon of combustion chamber deposit flaking.

4. Combustion chamber deposit flaking is a problem that was not recognized or reported before the availability of advanced emissions controls systems. Likewise, combustion chamber deposit flaking has recently become an issue in the context of direct injection gasoline engines. If combustion chamber deposit flaking had been a problem before the introduction of these modern engine technologies, then that flaking would have been recognized and


reported. Since I am not aware of any recognition or other reporting with respect to deposit flaking before the modern technology, then I believe that it is reasonable to assume that combustion chamber deposit flaking was either insignificant or did not occur at all until the advent of the modern technology.

5. The subject and phenomenon of combustion chamber deposit flaking is not associated with the general subject matter of internal combustion engines broadly speaking. Combustion chamber deposit flaking is solely recognized in the context of internal combustion engines having advanced emissions control systems or other modern systems such as direct injection gasoline systems.

6. I believe that a person of ordinary skill in the art of the present invention is knowledgeable with respect to gasoline formulations. This person of ordinary skill has a relatively low knowledge with respect to the problem of combustion chamber deposit flaking. The person of ordinary skill in the art would have no knowledge at all with respect to combustion chamber deposit flaking prior to the introduction of advanced emissions control systems. I believe that the present invention would not be obvious to this person of ordinary skill in the art without the benefit of hindsight and disclosure of the present patent application.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 11/17/06



Allen A. Aradi